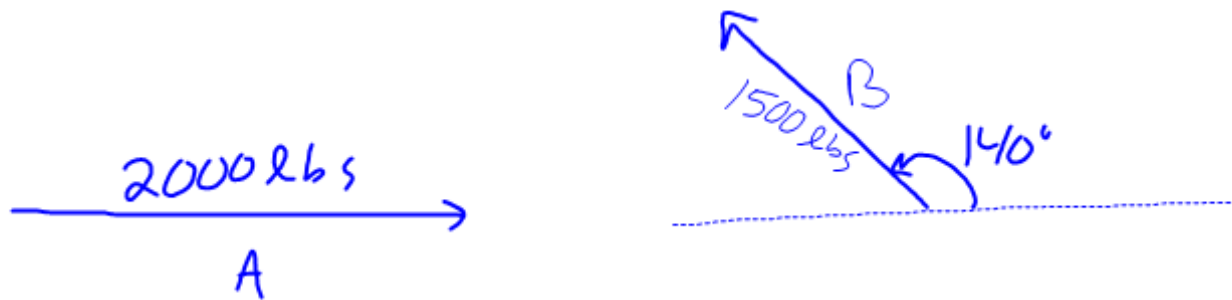
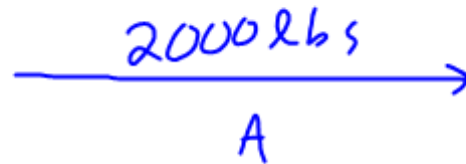


Find the magnitude and direction of $A+B$, then find the horizontal and vertical components of A and B .



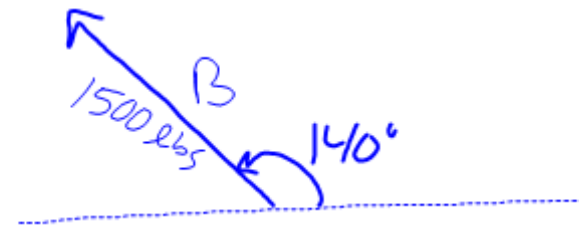
HW from yesterday 7.4 Read up to example 5, do
5-16 (half), 19, 21, 33, 34, 37, 38, 43, 49, 50, 53, 56

Find the magnitude and direction of $A+B$, then find the horizontal and vertical components of A and B .



$$\begin{aligned} X\text{-comp} &= 2000 \cos(0) \\ &= 2000 \end{aligned}$$

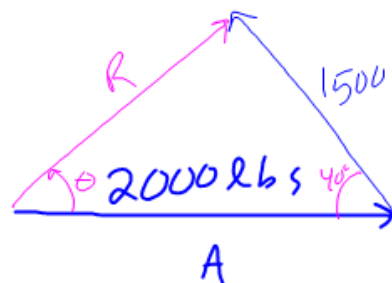
$$\begin{aligned} Y\text{-comp} &= 2000 \sin(0) \\ &= 0 \end{aligned}$$



$$\begin{aligned} X\text{-comp} &\Rightarrow 1500 \cos(140) \\ &\quad - 1500 \cos(40) \\ &\approx -1149 \end{aligned}$$

$$\begin{aligned} Y\text{-comp} &\Rightarrow 1500 \sin(140) \\ &\quad - 1500 \sin(40) \\ &\approx 964 \end{aligned}$$

Find the magnitude and direction of $A+B$, then find the horizontal and vertical components of A and B .



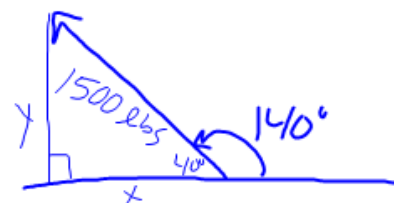
$$R^2 = 2000^2 + 1500^2 - 2(2000)(1500)\cos 40^\circ$$

$$R \approx 1285.98 \text{ lbs}$$

$$\frac{\sin 40^\circ}{1285.98} = \frac{\sin \theta}{1500}$$

$$\theta = \sin^{-1}\left(1500 \cdot \frac{\sin 40^\circ}{1285.98}\right)$$

$$\theta = 48.57^\circ$$

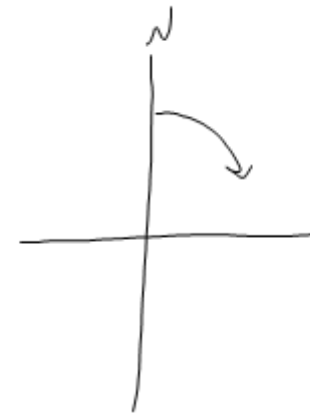
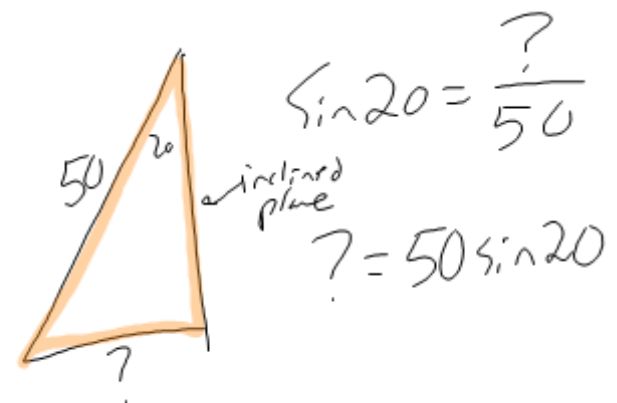
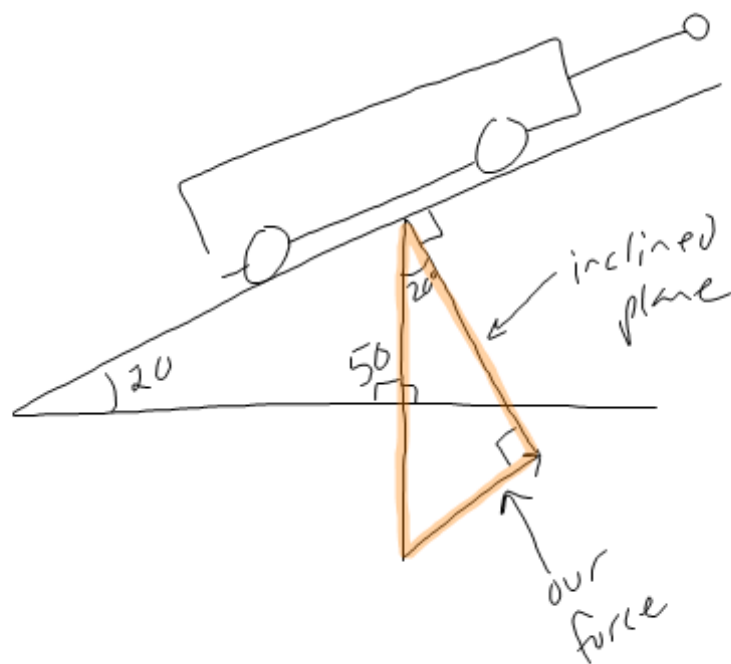


$$\cos 40^\circ = \frac{x}{1500}$$

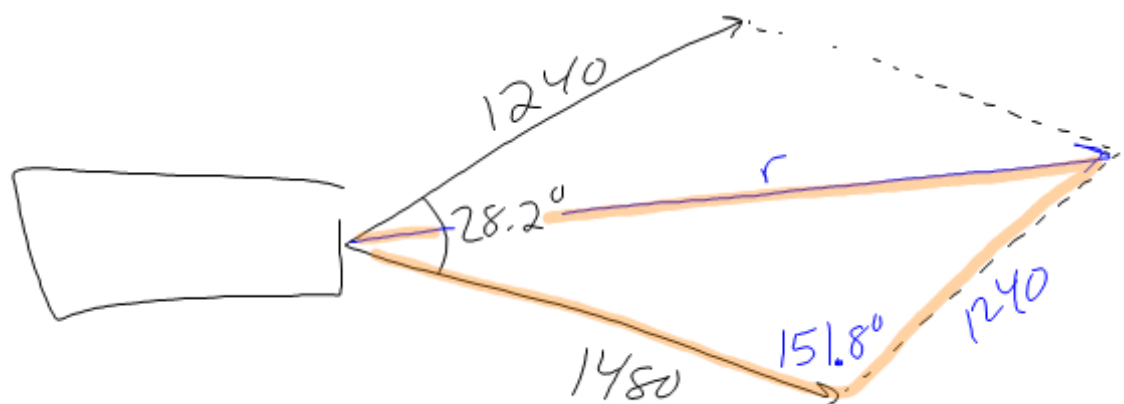
$$x = 1500 \cos 40^\circ$$

$$\sin 40^\circ = \frac{y}{1500}$$

$$y = 1500 \sin 40^\circ$$

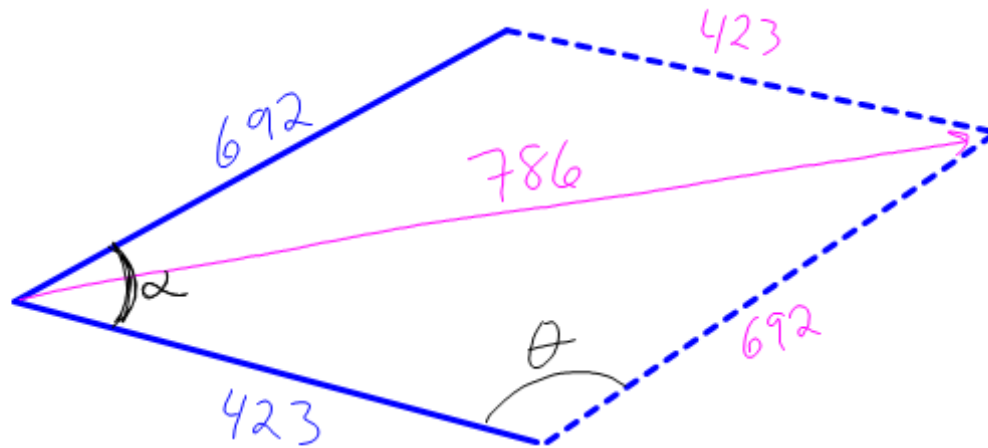


7.5 (#1)



$$r^2 = 1480^2 + 1240^2 - 2(1480)(1240)\cos 151.8$$

#3



$$786^2 = 423^2 + 692^2 - 2(423)(692)\cos\theta$$

$$\theta = 86.1^\circ$$

$$\alpha + \theta = 180$$

$$\alpha = 180 - \theta$$

$$\alpha = 93.9$$

HW from yesterday 7.4 Read up to example 5, do
5-16 (half), 19, 21, 33, 34, 37, 38, 43, 49, 50, 53, 56

Sect. 7.5 #1, 3, 9, 10, 15, 21, 23, 25, 28, 29

? Test Thur?